TIME
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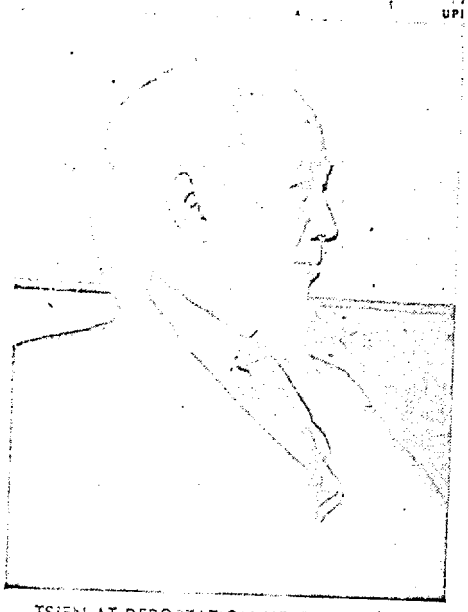
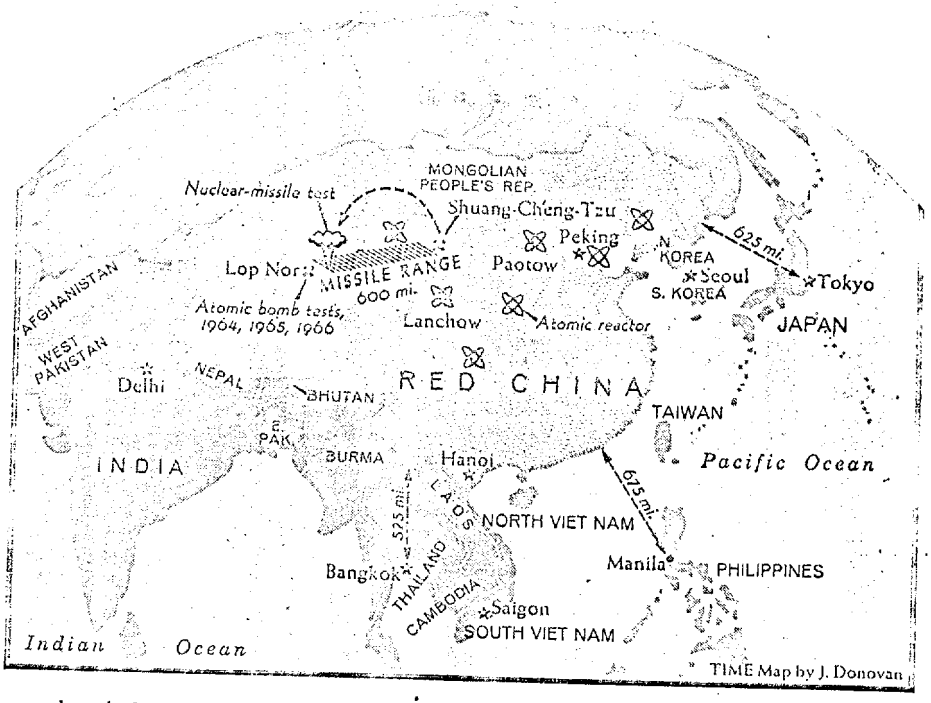


TSIEN AT DEPORTATION HEARING (1950)
Mostly psychological and political.



RED CHINA

Fire Arrow

The Chinese invented explosives in the 9th century A.D., and the rocket 200 years later. Last week, a millennium after those breakthroughs, China announced it had brought both weapons together for the first time. Over the wind-whipped desert of Takla Makan, Peking claimed, a Chinese Communist A-bomb was carried aloft by a Chinese Communist missile and exploded some 500 miles away.

First news of the successful missile shot was flashed over Radio Peking in the dead of night. As if by Maoist magic, the Gate of Heavenly Peace was instantly floodlit, and a People's Daily "extra" was on the streets within the hour. Squads of People's Liberation Army soldiers goose-stepped through Peking, each man waving a tiny Red flag.

The world was quick to react. North Viet Nam's Ho Chi Minh called the Chinese test a "stimulus to the cause of world peace." United Nations Secretary General U Thant did not quite agree: "Any atomic explosion anywhere is to be regretted." Japan lodged a "deep regrets and strongest protests" over the test, which it described as another example of China's "rowing against the stream of the world." Perhaps in tacit agreement, Communist newspapers in Warsaw and Paris downplayed the news as much as possible, but Paris' independent Le Figaro pronounced China "in the fullest sense of the word a nuclear power."

Major Advance? What, precisely, had Peking wrought? Nothing more than Western intelligence sources had predicted all along: the Chinese have built a short-range nuclear missile. The Chinese bomb last week was a 20-kiloton device, about the same size as the Hiroshima bomb and considerably less powerful than the third Chinese A-bomb (130 kilotons) detonated last May. There was conflicting opinion among Western scientists as to whether or not the bomb had been reduced by its builders to the tiny, rugged component parts needed to carry a big bang in a small warhead. If the bomb was "miniaturized"—and it will be weeks before analysis of its fallout can reach any conclusion on that question—then China has accomplished a major advance in nuclear weaponry. The delivery system was the real mystery. Some skeptics suggested that Peking was stretching the truth and had simply lashed the device to a radio-controlled drone. Even in its claim, Peking was deliberately vague. The Chinese ideograms for a rocket translate as "fire arrow," but Peking's English translator rendered them as "guided missile." In Western terms, a guided missile is an anachronism: one of those winged, jet-propelled vehicles, like the Snark and the Navaho, that American aerospace companies were working on before the ballistic missiles like Minuteman and Titan were developed in the late 1950s. Some Western sources think the Chinese used a copy of the Russian SS-4 missile, a true rocket propelled by liquid fuel and capable of carrying a miniaturized nuclear warhead 1,000 miles. If the Chinese mounted an outsized atomic "device" on the SS-4 copy, it could well have cut the rocket's range to 500 miles.

The Radius. Whatever the technological facts, China's spectacular last week did little to alter the balance of raw thermonuclear power in the world. To be sure, a slight improvement by Peking's engineers on the new system's range and reliability would put Tokyo, Taipei, Manila, Saigon and New Delhi within Chinese striking radius (*see map*). But any move to strike—or blackmail—those capitals would have to take into consideration the U.S. capacity for retaliation, ranging from simple, non-nuclear bombing power, to missile-borne holocaust.

Need for a Bang. The true value of the Chinese test last week was psychological and political. It came when the U.S. and its Asian allies were meeting in Manila. At the same time, Mao's Great Proletarian Cultural Revolution needed a bang, and the announcement of the missile-borne nuclear test filled that need. The test showed that Chinese science is "advancing at even greater speed under the brilliant illumination of Mao Tse-tung's thought," crowed Peking's characteristically pompous communiqué.

Peking did not mention that 74 of Red China's top scientists and engineers hold degrees from American universities. Indeed, the chief of Peking's missile development program, Dr. Tsien Hsue-shen, 57, was once Goddard Professor of Jet Propulsion at Caltech. A graduate of Shanghai's Chiaotung University, Tsien came to the U.S. in 1935 as a mechanical engineer, won a master's degree at M.I.T. the next year, then went on to Caltech. Commissioned a colonel in the Air Force during World War II, he headed a brain trust in Germany at war's end to scout Hitler's missile techniques.

Then, in 1950, Tsien took off for Shanghai to "visit his parents." Federal agents picked him up on a China-bound ship with 1,800 lbs. of rocketry research. After a long series of deportation hearings, the Government admit-

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ted that there was nothing "secret" in Tsien's load but claimed that he had been a Communist Party member since the 1930s. After Tsien was sentenced to deportation as a Communist, the Government had second thoughts. It argued that he possessed valuable knowledge that, if carried abroad, would be "inimical to the best interests of the U.S." So he remained at Caltech until 1955. Allowed at last to leave, he returned to the Chinese mainland and went right to work. Soon he was a full-fledged member of the Chinese Academy of Sciences and was posing for pictures at Mao's side. After a millennium of waiting, the Chinese "fire arrow" clearly had reached maturity.

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